Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

623 Food Protein-Induced Enterocolitis Syndrome (FPIES): Natural History and Reintroduction in the Early Peanut Introduction Age

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RATIONALE: Appropriate protein-induced enterocolitis syndrome (FPIES) diagnosis, management, and timing of food reintroduction is important to limit unnecessary food avoidances and maximize nutrition in young children.

METHODS: Retrospective review of the charts of children diagnosed with FPIES at our large pediatric tertiary care hospital from August 2018 to April 2021. We collected demographics, clinical history, assessment, management, and food reintroduction.

RESULTS: The charts of 479 patients with ICD-9/10 codes that could represent FPIES were reviewed, 100 of which had histories consistent with FPIES (58% male). The median age of symptom onset and FPIES diagnosis were 6 and 8 months, respectively. The ten most common causative foods include: oat(36%), rice(27%), milk(19%), egg(15%), peanut(11%), soy(8%), sweet potato(8%), tree nut(8%), banana(6%), and wheat(5%). IgE-mediated allergy to the same food was found in five patients (5%), each to a unique food. Symptoms include: vomiting(100%), lethargy(61%), pallor(26%), and diarrhea(21%). Almost half (43%) of patients had no documented skin prick testing or serum specific IgE levels to the causative food. Among those patients at least 12 months (66) and 24 months (24) from their most recent reaction, a minority had done an in-office challenge (11% and 12%, respectively), with the remaining continuing food avoidance or reintroducing at home.

CONCLUSIONS: Rice, oat, and dairy were the most common causes of FPIES, though peanut and egg were causative in 26% of our patients. Further investigation on any changes in the incidence of reported FPIES reactions to peanut and egg with the current recommendation for early introduction could be of benefit.

624 Alpha-Gal sensitization, mammalian meat consumption and allergic symptoms in adults from central Virginia at-risk for cardiovascular disease

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RATIONALE: Studying adults in central Virginia at-risk for cardiovascular disease we previously reported a high prevalence of α-Gal sensitization (26%) and, using high-sensitivity intravascular ultrasound imaging, an association between α-Gal IgE and coronary artery disease (CAD) severity. Here we sought to characterize diet and allergic symptoms in prospectively recruited at-risk subjects, hypothesizing that most sensitized subjects lacked allergic symptoms and routinely consumed mammalian meat.

METHODS: Adults deemed to be at-risk for CAD by their primary providers were referred for coronary angiography in this University of Virginia IRB-approved investigation. Consented individuals provided a blood sample and dietary/allergic history was obtained by questionnaire. Total IgE and α-Gal IgE were assayed with ImmunoCAP 250.

RESULTS: Of 113 subjects, the majority were men (69%), median age was 62, 104 (92%) reported at least weekly consumption of mammalian meat, 92 (81%) had evidence of CAD and 38 (34%) were α-Gal IgE positive (cut-off of 0.1 kUA/L). Demographics, co-morbid allergic disease and CAD severity were similar among sensitized and non-sensitized subjects. Among the sensitized, α-Gal IgE levels ranged from 0.1-18.1 kUA/L (median 0.74 kUA/L) and 87% reported routine consumption of both mammalian meat and dairy. Among 7 subjects with α-Gal IgE ≥ class 3 (3.5 kUA/L), all consumed dairy, 6 routinely consumed mammalian meat and none reported history of hives or anaphylaxis.

CONCLUSIONS: Alpha-Gal sensitization is common in adults at-risk for CAD in central Virginia, but most of these patients do not have overt allergic symptoms and routinely consume mammalian meat and dairy. Studies using high-sensitivity CAD imaging are ongoing.

625 Prevalence of α-Gal IgE and Mammalian Meat Allergy in a COVID-19 Vaccine Employee Cohort

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RATIONALE: The α-Gal syndrome (AGS) is a tick-acquired allergic disorder caused by IgE to galactose-α-1,3-galactose (α-Gal). To date, most studies on AGS come from case-control studies and there is limited information about the prevalence of alpha-gal sensitization and allergy in the community. Here we addressed these questions in an employee vaccine cohort.

METHODS: Adults affiliated with the University of Virginia were recruited as part of an IRB-approved COVID-19 antibody study. All participants had received at least one FDA-EUA approved COVID-19 vaccine. Allergic disease was not considered in inclusion or exclusion criteria and subjects provided a blood sample and answered a questionnaire about medical and dietary history. Total IgE and IgE to α-Gal were assayed by ImmunoCAP.

RESULTS: Of 232 subjects, median age was 42 (IQR 32-54), 178 (77%) were female, 5 (2.2%) reported mammalian meat allergy and 35 (15.1%) had IgE to α-Gal ≥0.1 kUA/L. Compared to non-sensitized subjects, α-Gal sensitized subjects were older (median age 57 vs 40, $p<0.001$) and had higher levels of total IgE (GM 49 IU/mL vs 19 IU/mL, $p=0.002$), but rates of asthma, allergic rhinitis and atopic dermatitis were similar. Of the 35 sensitized subjects, 4 (11%) reported mammalian meat allergy whereas 26 (74%) routinely consumed mammalian meat at least once a week and none reported recurrent hives.

CONCLUSIONS: In this unselected cohort from central Virginia, the prevalence of α-Gal sIgE was 15.1% but self-reported mammalian meat allergy was 2.2%. Consistent with other reports, many subjects who are sensitized to α-Gal tolerate mammalian meat without obvious allergic symptoms.